

NOMENCLATURAL NOTES AND A SYNOPSIS  
OF THE GENUS *MYRSINE* (MYRSINACEAE)  
IN MESOAMERICA

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ABSTRACT

A nomenclatural summary is provided for the species of the genus *Myrsine* occurring in Mesoamerica. An updated description of the genus and its taxonomic synonyms is provided, along with a key to the species. Seven taxa are recognized, including the new combination *Myrsine coriacea* (Sw.) R. Br. ex Roem. et Schult. subsp. *nigrescens* (Lundell) Ricketson & Pipoly. All taxa are enumerated, nomenclatural and taxonomic synonyms provided, and two species, *Myrsine juerguensenii* and *M. pellucidopunctata*, are lectotypified. Sixteen binomials are newly relegated to synonymy.

RESUMEN

Se ofrece un resumen de las especies mesoamericanas pertenecientes al género *Myrsine*. Se incluye una descripción actualizada del género y sus sinónimos taxonómicos, junto con una clave para identificar las especies. Se reconocen siete taxa, incluyendo la nueva combinación *Myrsine coriacea* (Sw.) R. Br. ex Roem. et Schult. subsp. *nigrescens* (Lundell) Ricketson & Pipoly. Se enumeran los taxa, se ofrecen sinónimos tanto nomenclaturales como taxonómicos, y se lectotipifican dos especies, *Myrsine juerguensenii* and *M. pellucidopunctata*. Se relegan dieciséis binómenes como nuevos sinónimos taxonómicos.

INTRODUCTION

The genus *Myrsine* R. Br. contains ca. 300 species of which nearly 1/4 remain undescribed. C. Chen and Pipoly (1996), Pipoly (1991, 1992a, 1992b, 1996) and Pipoly and C. Chen (1995) have provided summaries of evidence for broader circumscription of the genus, particularly to include *Rapanea* Aubl. The genus is pantropically distributed, occurring in diverse vegetation types, from mangroves to subalpine scrub, but always in moist, wet or pluvial habitats. The genus is defined by lateral (axillary), fascicu-



late or umbellate inflorescences, sessile or on short, perennating peduncles girdled by persistent floral bracts, thus forming "short shoots." In preparation for our treatment of the genus for *Flora Mesoamericana*, it became necessary to assemble complete synonymies and bibliographic references, and lectotypify several species. Because of the somewhat abbreviated format of that Flora, the present synopsis is intended to provide a complete nomenclator for this often misunderstood and nomenclaturally complex genus.

#### TAXONOMIC TREATMENT

**Myrsine** L., Sp. Pl. 1:196. 1753, Gen. Pl. ed 5:90. 1754; Roem. & Schult., Syst. Veg. 503. 1819; A. DC., Trans. Linn. Soc., London, Bot. 17:104. 1834, Ann. Sci. Nat. Bot. 9:292. 1834, Ann. Sci. Nat. Bot. 16:65–97, 129–196, tab. 1–3, 8–9, 1841; A. DC in DC, Prodr. 8:92. 1844. Miq. in Mart., Fl. Bras. 10:306. 1856. Hook. f. in Benth. & Hook., Gen. Pl. 2:642. 1876. Mez in Engl., Pflanzenr. 9(IV. 236):338. 1902. E. Walker, Philipp. J. Sci. 73:1940, Bot. Mag. Tokyo 67:249. 1954, Bull. Ag. Home Ec. Univ. Ryuku 2:76. 1955, Quart. J. Taiwan Mus. 12:164. 1959. Stearn, Bull. Brit. Mus. (Nat. Hist.), Bot. 4:174. 1969. Fosberg & Sachet, Smithsonian Contr. Bot. 21:3–11. 1975. Lundell, Phytologia 48:137. 1981, Phytologia 56:418. 1984. Pipoly, Novon 1:204. 1991, Calsasia 17:1. 1992, Novon 2:392. 1992; Pipoly & C. Chen, Novon 5:360. 1995; Y. B. Harvey & Pipoly, Fl. Pico das Almas 487. 1995; C. Chen & Pipoly, Fl. China 15:34–38. 1996; Pipoly, Sida 17:115–162. 1996. TYPE SPECIES (by monotypy): *Myrsine africana* L.

*Rapanea* Aubl., Hist. Pl. Guiane 1:121. t. 46. 1775.

*Dubamelia* Dombey ex Lam., Encycl. 1:245. 1783.

*Samara* Sw., Prodr. 1:120. 1788. *pro parte, non* L.

*Manglilla* A. Juss., Gen. Pl. 151. 1789.

*Arthrophyllum* Lour., Fl. Cochinch. 1:120. 1790.

*Caballeria* Ruiz & Pav., Fl. Peruv. Prodr. 1:141. 1794.

*Roemeria* Thunb. (*non alior*) Nov. Gen. Pl. 9:130. 1798.

*Scleroxylum* Willd., Ges. Naturf. Freunde Berlin Mag. Neuesten Entdeck. Gesammten Naturk. 3:57. 1809.

*Suttonia* A. Rich., Ess. Fl. Nouv.-Zel. 349. pl. 38. 1832.

*Merista* Banks & Sol. ex A. Cunn. in A. DC. in DC., Prodr. 8:95. 1844.

*Shrubs* or small trees. *Leaves* alternate. *Inflorescences* lateral (axillary), umbellate or fasciculate, sessile or on short accrescent branchlets girdled by persistent floral bracts. *Flowers* 4–5(–6)-merous, bisexual or unisexual, the plants then bisexual, monoecious, dioecious, or polygamous; sepals nearly free or united to 1/2 their length, imbricate or valvate, usually ciliate, punctate, persistent; petals nearly free or rarely united to 1/2 their length, usually ciliate, glandular-granulose at least along margin and often throughout within, punctate; stamens and staminodes similar, subequal to corolla length, the filaments free or connate basally to form a tube, the tube with or without sterile appendages alternating with the filaments, and all merely adnate to the corolla tube; or developmentally fused throughout, the



anthers thus appearing epipetalous, the anthers and antherodes similar, ovate or reniform, elliptic or oblong, rarely sagittate, 2-celled, dehiscing by longitudinal slits, or rarely by subterminal pores opening later into wide longitudinal slits; pistil and pistillode similar; conic, obturbinate, obnapiform, or variously subglobose; ovary globose, costate or not, glabrous or glabrescent; ovules few, uniseriate, completely immersed in placenta or seated below apical pores in placenta or variously projecting; style obsolete to present, tapering into stigma; stigma morchelliform, liguliform, sinuate to lobate, prismatic and 3-lobed, or rarely conical. *Fruit* a globose, subglobose, ellipsoid, ovoid, or subovoid drupe, with somewhat fleshy exocarp and crusty or leathery endocarp, 1-seeded; endosperm horny, ruminate; embryo cylindrical, transverse.

In Mesoamerica, six species are known, that may be distinguished by the following key.

#### KEY TO MYRSINE OF MESOAMERICA

1. Branchlets, petioles and/or midrib of leaf blade ferruginous to rufous tomentose, at times early glabrescent, the trichomes uniseriate.
  2. Leaf blades obovate-spathulate, suborbicular or rarely widely oblong, 0.6–3.5 cm long, the midrib forming a terminal mucron; petioles up to 0.4 cm long ..... 1. *M. dependens*
  2. Leaf blades elliptic, oblong, oblanceolate or lanceolate, 2.5–13 cm long, the midrib not forming a terminal mucron; petioles 0.1–2 cm long.
    3. Branchlets usually persistently ferruginous to rufous tomentose; midrib of leaf blade usually glabrous above ..... 2a. *M. coriacea* subsp. *coriacea*
    3. Branchlets glabrous, usually ferruginous only along margins of terminal buds and petioles; midrib of leaf blade ferruginous tomentose above ..... 2b. *M. coriacea* subsp. *nigrescens*
1. Branchlets, petioles and midrib of leaf blade glabrous or glandular-granulose.
  4. Lower leaf surface prominently punctate and punctate-lineate, bearing large hydropotes, scattered over the abaxial surface, leaf margins flat to inrolled; stigma sessile ..... 3. *M. pellucidopunctata*
  4. Lower leaf surface conspicuously but not prominently punctate or prominently punctate-lineate, bearing small hydropotes densely distributed over the abaxial surface, leaf margin usually inrolled to revolute; stigma sessile or stylopodic.
    5. Flowering shoots 5–13 mm long, 4–5 mm wide; flowers 3–5 mm long; fruits 4–6 mm diameter ..... 4. *M. calcarata*
    5. Flowering shoots 1.5–4 mm long, 1.5–3 mm wide; flowers 2.2–3.2 mm long; fruits 3–4.5 mm diameter.
      6. Branchlets prominently lenticellate; inflorescence umbellate; pedicels 1–3.5 mm long; stigma on a stylopodium; fruits globose to depressed globose; plants of premontane, montane or cloud forests (500–3,000 m), Mexico to Panama ..... 5. *M. juergensenii*
      6. Branches without prominent lenticels; inflorescence fasciculate; pedicels 0.5–1.5 mm long; stigma sessile on the ovary; fruits ellip-



soid; plants of lowland coastal forests and mangroves (0–300 m), along the coast of the Gulf of Mexico and the Caribbean, Mexico to Panama ..... 6. *M. cubana*

1. *Myrsine dependens* (Ruíz & Pav.) Spreng., Syst. Veg. 1:664. 1825.

*Caballeria dependens* Ruíz & Pav., Syst. Veg. Fl. Peruv. Chil. 281. 1798. *Manglilla dependens* (Ruíz & Pav.) Roem. & Schult., Syst. Veg. 4:506. 1819. *Rapanea dependens* (Ruíz & Pav.) Mez in Engl., Pflanzenr. 9(IV. 236):377. 1902. TYPE: PERU. HUÁNUCO: Near Muña, *H. Ruíz & J. Pavón s.n.* (HOLOTYPE: MA; ISOTYPES: F, G-DEL).

*Myrsine ciliata* Kunth in H.B.K., Nov. Gen. Sp. 3:248. 1819. *Rapanea dependens* (Ruíz & Pav.) Mez in Engl. var. *ciliata* (Kunth) Cuatrec., Rev. Acad. Colomb. Ci. Exact. 8:324. 1951. TYPE: COLOMBIA. Without locality, *A. von Humboldt & A. Bonpland* 326 (HOLOTYPE, P).

*Samara myrtifolia* Willd. ex Schult. & J.H. Schult. in Roem. & Schult., Mant. 3:220. 1827. *Myrsine myrtifolia* (Schult. & J.H. Schult.) A. DC. Prodr. 8:103. 1844. TYPE: COLOMBIA. Without locality, *A. von Humboldt & A. Bonpland s.n.* (HOLOTYPE: P). According to TL-2, the third volume of *Mantissa* was co-authored by Julius Herman Schultes, son of Josef August Schultes, in their revision of the Syst. Veg. that Josef and Johann Jakob Roemer had written earlier. Therefore, we have changed the literature citation customarily used for the basionym accordingly.

*Caballeria myrtifolia* Ruíz & Pav. ex A. DC. in DC, Prodr. 8:102. 1844. *pro syn, nom. inval.* TYPE: PERU. Without locality, *H. Ruíz & J. Pavón s.n.* (HOLOTYPE: G-DEL; ISOTYPES: G-BOIS, MA).

*Myrsine myrtoides* Hook. f., Icon. Pl. t. 87. 1852. *Rapanea myrtoides* (Hook. f.) Mez in Engl., Pflanzenr. 9(IV. 236):377. 1902. *Rapanea ciliata* (Kunth) Cuatrec. var. *myrtoides* (Hook. f.) Cuatrec., Trab. Mus. Nat. Ci. Nat. Ser. Bot. 33:108. 1936. *Rapanea dependens* (Ruíz & Pav.) Mez in Engl. var. *myrtoides* (Hook. f.) Cuatrec., Rev. Acad. Colomb. Ci. Exact. 8:325. 1951. TYPE: COLOMBIA. NARIÑO: Volcán de Pasto, 4,000 m, *W. Jameson* 449 (HOLOTYPE: K).

*Rapanea pittieri* Mez in Engl., Pflanzenr. 9(IV. 236):378. 1902. *Myrsine pittieri* (Mez) Lundell, Phytologia 48:142. 1981. TYPE: COSTA RICA. CARTAGO: Volcán Irazú, 3,000 m, *H. Pittier* 14111 (HOLOTYPE: B-dest.; LECTOTYPE: by Pipoly 1992b, BR; ISOLECTOTYPE: US).

*Rapanea peruviana* Lundell, Wrightia 6:117. 1980. SYN. NOV. *Myrsine peruviana* (Lundell) Lundell, Phytologia 48:142. 1981. TYPE: PERU. CUZCO: Tres Cruces, upper edge of Parque Nacional de Manú, 1–13 km NW of Paucartambo-Pilcopata Road, 3,300–3,500 m, 29 Jun 1978, *A. Gentry et al.* 23478 (HOLOTYPE: LL-TEX; ISOTYPES: MO, USM).

*Rapanea pittieri* Mez var. *chirripoensis* Suessenguth, Bot. Jahrb. Syst. 72:281. 1942. SYN. NOV. TYPE: COSTA RICA. SAN JOSÉ: Chirripó Grande, 28 Apr 1932, *W. Kupper* 1140 (HOLOTYPE: M; ISOTYPE: M.)

Considerable leaf variation occurs in *Myrsine dependens* throughout its range reminiscent of that found among Asian species distributed over broad archipelagos. Populations corresponding to *Myrsine ciliata* are notable only for their longer glandular cilia along the leaf margins while in bud. Populations corresponding to the types of *Samara myrtifolia*, *Caballeria myrtifolia*, and *Myrsine myrtoides* are notable only because the leaf blades are cartilaginous in texture, much smaller, and almost plicate. It is interesting to note that



exactly the same leaf variation is seen in taxa from New Guinea, where *Rapanea cacuminum* Mez is a vegetative match to the type of *Myrsine dependens*, while *Rapanea velutina* corresponds to *Myrsine myrtoides* (both *Rapanea* species will be transferred to *Myrsine*). In other words, quantitative foliar variation was responsible for their segregation in each case. The type of *Rapanea pittieri* was distinguished by Mez solely because of the epunctate (vs. punctate) dorsal side of the anthers. Our study of interpopulational variation revealed that the difference is a matter of conspicuous punctations (Costa Rican populations) vs. prominently raised punctations (Colombian to Peruvian populations). While carrying out fieldwork in Costa Rica and Colombia, I have found that this varies even within populations. Populations corresponding to the type of *Rapanea peruviana* Lundell have a denser and deeper red-colored tomentum than the average, and those of *Rapanea pittieri* var. *chirripoensis* are in all ways exact matches to the type of *Myrsine dependens*. Such a broad ranging, polymorphic species has been termed a "polymorphic ochlospecies" by White (1962), Prance (1982), and Pipoly (1983). Variation in these species is not clinal or necessarily ecotypic; rather it appears to be a series of uncorrelated permutations in quantitative characteristics.

## 2. *Myrsine coriacea* (Sw.) R. Br. ex Roem. & Schult.

As here circumscribed, *Myrsine coriacea* is the most widespread neotropical species and perhaps the only "weedy" neotropical member of the Myrsinaceae. It is the most polymorphic of the ochlospecies found in any myrsinaceous genus. While vegetative plasticity is greater in this species than in any other in the family, the conic-morchelliform stigma is unique. Among the other distinguishing features of this species are the few-flowered, sessile, fasciculate inflorescences, subsagittate anther and antherode bases, the persistent ferruginous tomentum of the vegetative organs and pedicels, and the small, globose fruits. The only consistent difference we can find between populations corresponding to the type specimen of *Myrsine coriacea* and those corresponding to that of *M. nigrescens* (Lundell) Lundell, is that in populations of the latter, the persistent tomentum is restricted to the petioles and adaxial leaf midrib, and the populations are largely restricted to open areas of wind-swept elfin forests. Therefore, we consider *M. nigrescens* a subspecies of *M. coriacea*, and make the following new combination.

2a. *Myrsine coriacea* (Sw.) R. Br. ex Roem. & Schult. subsp. *coriacea*, Syst. Veg. 4:511. 1819. *Samara coriacea* Sw., Prodr. 1:32. 1788. *Rapanea coriacea* (Sw.) Mez in Urban, Symb. Antill. 2:428. 1901. TYPE: JAMAICA. Without locality, without date, *O. Swartz s.n.* (HOLOTYPE: BM).

*Caballeria ferruginea* Ruíz & Pav., Syst. Veg. Fl. Peruv. Chil. 280. 1798. *Manglilla ferruginea* (Ruíz & Pav.) Roem. & Schult., Syst. Veg. 4:506. 1819. *Myrsine ferruginea* (Ruíz & Pav.) Spreng., Syst. Veg. 1:664. 1825. *Rapanea ferruginea* (Ruíz & Pav.) Mez in



- Urban, Symb. Antill. 2:429. 1901. TYPE: PERU. HUÁNUCO: Near. Muña, Without date, *H. Ruiz et J. Pavón s.n.* (HOLOTYPE: MA; ISOTYPE: G).
- Myrsine popyananensis* Kunth in H.B.K., Nov. Gen. Sp. 3:249. 1819. TYPE: COLOMBIA. CAUCA: Near Popayán, 1,000 m, *Humboldt & Bonpland 1908* (HOLOTYPE: P).
- Myrsine jelskii* Zahlbr., Ann. K. K. Naturhist. Hofmus. 7:3. 1892. *Rapanea jelskii* (Zahlbr.) Mez in Engl., Pflanzenr. 9(IV. 236):379. 1902. TYPE: PERU. CAJAMARCA: Near Cutervo, *C. von Jelski 15* (HOLOTYPE: W; ISOTYPE, PR).
- Samara saligna* Willd. & J.H. Schult. in Roem. & Schult., Mant. 3:220. 1827. *Myrsine saligna* (Schult. & J.H. Schult.) A. DC., Prodr. 8:103. 1844. TYPE: *Herb. Willd. 1039* (B-WILLD, n.v.).
- Myrsine myricoides* Schltld., Linnaea 1833: 525. 1833. SYN. NOV. *Rapanea myricoides* (Schltld.) Lundell, Wrightia 3:109. 1964. TYPE: MEXICO. JALAPA: *H. Galeotti 521, 522, 526* (SYNTYPES BR, F, G, HAL). We defer lectotypification of this binomial until all materials cited in the protologue and their duplicates can be assembled.
- Myrsine tomentosa* Presl, Reliq. Haenk. 2:63. 1835. TYPE: PERU. HUÁNUCO: Without further locality, *T. Haenke s.n.* (HOLOTYPE: PR).
- Myrsine viridis* Rusby, Mem. Torrey Bot. Club 6:74. 1896. TYPE: BOLIVIA. LA PAZ: Mapiri, Jul–Aug 1892, *M. Bang 1476* (HOLOTYPE: NY).
- Myrsine guatemalensis* Gand., Bull. Soc. Bot. France 65:57. 1918. TYPE: GUATEMALA. ALTA VERAPAZ: Coban, 1,350 m, Dec 1906, *H. von Türckheim 1001* (HOLOTYPE: P; ISOTYPES: F, G, LL-TEX, MICH, MO).
- Rapanea rufa* Lundell, Wrightia 5:298. 1976. SYN. NOV. *Myrsine rufa* (Lundell) Lundell, Phytologia 48:142. 1981. TYPE: COSTA RICA. SAN JOSÉ: Cordillera de Talamanca, Pacific Slope of the Chirripó Massif, 2,700–3,000 m, 6 Apr 1969, *G. Davidse & R. Pohl 1635* (HOLOTYPE: LL-TEX; ISOTYPE: MO).
- Myrsine vestita* Lundell, Wrightia 7:274. 1984. SYN. NOV. *Rapanea vestita* (Lundell) Lundell, Phytologia 58:490. 1985. TYPE: COSTA RICA. PUNTARENAS: Cordillera de Talamanca, slopes between Cerro Echandí and Cerro Burú, 2,600–2,700 m, 24 Aug 1983, *G. Davidse et al. 24018* (HOLOTYPE: LL-TEX; ISOTYPES: CR, MO).
- Myrsine microcalyx* Lundell, Phytologia 58:277. 1985. SYN. NOV. *Rapanea microcalyx* (Lundell) Lundell, Phytologia 58:490. 1985. TYPE: PANAMA. CHIRIQUÍ: Cerro Colorado, 24 mi on gravel road from bridge over Río San Félix, 1,430 m, 22 Nov 1979, *T. Antonio 2619* (HOLOTYPE: LL-TEX; ISOTYPE: MO).

As noted above, this highly variable species exhibits great variation in quantitative features of its vegetative parts, and also in such features as the degree of curvature of the leaf base (obtuse, rounded or acute), leaf shape, vestiture thickness and trichome length, number of flowers and internode length. All of these factors are responsible for the various segregates that have been recognized in the past, including the new ones synonymized above. We believe we have assembled material from throughout subsp. *coriacea*'s range for the first time since Mez's work in 1902 and only for that reason have we been able to appreciate how broadly variation occurs within and among populations, that has convinced us to adopt a very broad species concept. One of the new synonyms, *Myrsine microcalyx*, is a bisexual growth form with consequent quantitative floral variation.

## 2b. *Myrsine coriacea* (Sw.) R. Br. ex Roem. & Schult. subsp. *nigrescens*



(Lundell) Ricketson & Pipoly, comb. et stat. nov. *Myrsine nigrescens* Lundell, Phytologia 56:418. 1984. *Rapanea nigrescens* (Lundell) Lundell, Phytologia 58:490. 1985. TYPE: PANAMÁ. BOCAS DEL TORO: Cordillera de Talamanca, headwaters of the Río Columbre, 6 airline km NW of the peak of Cerro Echandí on the Costa Rica-Panamanian international border, 2,450–2,600 m., 2–3 March 1984, G. Davidse et al. 25239 (HOLOTYPE: LL-TEX; ISOTYPE: LL-TEX, MO).

We have chosen to relegate *Myrsine nigrescens* to synonymy under *Myrsine coriacea* because we have not found any unique features by which we may define it. However, a combination of characters, including the tomentum restricted to the margins of leaf buds and petioles, and tomentose midrib of the leaf, are correlated with its habitats in open areas of wind-swept elfin forests, can be used to distinguish a series of populations consistently. Therefore, we recognize those populations as at the subspecific level. Our subspecies concept follows Pipoly (1987).

3. *Myrsine pellucidopunctata* Oerst., Vidensk. Meddel. Dansk Naturhist. Fören Kjøbenhavn. 133. 1861. *Rapanea pellucido-punctata* (Oerst.) Mez in Engl., Pflanzenr. 9(IV. 236):393. 1902. TYPE: COSTA RICA. CARTAGO: "In monte Irasuense, Orsted legit, Jan 1847, A.S. Oersted. 30" (LECTOTYPE, here designated: C).

*Rapnaea panamensis* Lundell, Wrightia 4:169. 1971. SYN. NOV. *Myrsine panamensis* (Lundell) Lundell, Phytologia 48:142. 1981. TYPE: PANAMA. Panamá: San José Island, Perlas Archipelago, Gulf of Panama, ca. 55 mi SSE of Balboa, main road W of Matta Puerco, 9 Nov 1944, I.M. Johnston 441 (HOLOTYPE: LL-TEX; ISOTYPES: GH, MO, US).

*Myrsine sytsmae* Lundell, Phytologia 58:278. 1985. SYN. NOV. *Rapanea sytsmae* (Lundell) Lundell, Phytologia 58:490. 1985. TYPE: PANAMA. Los Santos: Road to El Cortezo, 100–200 m, 24 Jan 1981, W D'Arcy & K. Sytsma 14355 (HOLOTYPE: LL-TEX; ISOTYPE: MO).

In the Botanical Museum, University of Copenhagen Herbarium (C), there are six different collections of *A.S. Oersted 30* made from three different locations (Aguacate, Jaris and Irazú in Costa Rica), between January 1846 and November 1847. In Oersted's original description he states "Frequenter occurrit in Costa Rica, sylvarum humidarum incola, alt. 2,000–5,000. Specimina in montibus Jarvis, Aguacate et Irasu lecta reportavi," without specifying localities further. Mez (1902) and subsequent authors have failed to designate a lectotype. The C sheet of *A.S. Oersted 30* from Irazú, Costa Rica, of Jan. 1847, is here selected as the lectotype because it is by far the best of the six collections, and has the greatest number of dissections and notes by Oersted associated with it.

The two Lundell species here synonymized represent populations differing only by quantitative characters that are not constant over the range of the species. *Myrsine panamensis* is notable only by the early glabrescent branchlet apices with small trichomes slightly more reddish than other populations of *M. pellucidopunctata*. Populations corresponding to the type of



*Myrsine systmae* are notable only for its narrow leaves, and somewhat shorter petioles. None of these populational characteristics can be consistently used to define taxa and therefore, we relegate *Myrsine panamensis* and *M. systmae* to synonymy.

4. ***Myrsine calcarata*** (Lundell) Lundell, *Phytologia* 48:142 (1981). *Rapanea calcarata* Lundell, *Wrightia* 5:295. 1976. TYPE: COSTA RICA. ALAJUELA: S side of Volcán Poás, upper slopes, on road leading past weather station, 24 Mar 1972, *D. Stone* 3141 (HOLOTYPE: LL-TEX).

5. ***Myrsine juergensenii*** (Mez) Lundell, *Phytologia* 48:142 1981. *Rapanea juergensenii* Mez in Engl., *Pflanzenreich* 9 (IV. 236):388. TYPE: MEXICO. Oaxaca: without specific locality, date, *H. Galeotti* 530 (LECTOTYPE, here designated: US; ISOLECTOTYPES: G, NY).

*Rapanea allenii* Lundell, *Wrightia* 4:168. 1971. SYN. NOV. *Myrsine allenii* (Lundell) Lundell, *Phytologia* 48:142. 1981. TYPE: PANAMA. CHIRIQUÍ: N forested face of Cerro Copete, an E spur of Chiriquí Volcano, 2,438-2,591 m, 29 July 1947, *P. H. Allen* 4869 (HOLOTYPE: US, LL-TEX-fragment; ISOTYPES: G, MO).

*Myrsine chiapensis* Lundell, *Phytologia* 58:275. 1985. SYN. NOV. *Rapanea chiapensis* (Lundell) Lundell, *Phytologia* 58:489. 1985. TYPE: MEXICO. CHIAPAS: Municipio of La Trinitaria, E of Laguna Tzikaw, Monte Bello National Park, 1,300 m, 13 May 1973, *D. Breedlove* 35246 (HOLOTYPE: LL-TEX; ISOTYPE: DS, MICH, MO).

*Myrsine coclensis* Lundell, *Phytologia* 58:275. 1985. SYN. NOV. *Rapanea coclensis* (Lundell) Lundell, *Phytologia* 58:489. 1985. TYPE: PANAMA. COCLE: El Valle, Mesa, 6-6.5 km from Main Street, ca. 1,000 m, 16 Jan 1977, *J. Folsom* 1352 (HOLOTYPE: MO; ISOTYPE: LL-TEX).

*Myrsine gillyi* Lundell, *Phytologia* 58:276. 1985. SYN. NOV. *Rapanea gillyi* (Lundell) Lundell, *Phytologia* 58:489. 1985. TYPE: MEXICO. NAYARIT: Mirador de Aguila, ca. 14 mi N of Tepic, 450-600 m, 21 Aug 1959, *C. Fedema* 840 (HOLOTYPE: LL-TEX).

*Myrsine costaricensis* Lundell, *Phytologia* 58:276. 1985. SYN. NOV. *Rapanea costaricensis* (Lundell) Lundell, *Phytologia* 58:489. 1985. TYPE: COSTA RICA. SAN JOSÉ: Along gravel road, 2 km N of Hwy. 12, ca. 10 km W of Interamerican Hwy., 2,200 m, 14 Aug 1977, *T. Croat* 43380 (HOLOTYPE: LL-TEX; ISOTYPE: MO!).

*Myrsine jaliscensis* Lundell, *Phytologia* 58:277. 1985. SYN. NOV. *Rapanea jaliscensis* (Lundell) Lundell, *Phytologia* 58:490. 1985. TYPE: MEXICO. JALISCO: Sierra de Caule, SW of Talpa de Allende; SW of the prominent peak called Piedra Rajada, S- and W-facing slopes, 2,200 m, 19-21 Nov 1952, *R. McVaugh* 14336 (HOLOTYPE: LL-TEX; ISOTYPE: MICH- n.v., MO).

*Rapanea mexicana* Lundell, *Wrightia* 5:296. 1976. SYN. NOV. *Myrsine mexicana* (Lundell) Lundell, *Phytologia* 48:142. 1981. TYPE: MEXICO. CHIAPAS: Pico de Loro, near Escuintla, 25 Jun 1941, *E. Matuda* 4228 (HOLOTYPE: LL-TEX; ISOTYPES: A, F, MO, NY, US).

*Rapanea reflexiflora* Lundell, *Wrightia* 5:297. 1976. SYN. NOV. *Myrsine reflexiflora* (Lundell) Lundell, *Phytologia* 48:142. 1981. TYPE: PANAMA. COCLÉ: Woods adjacent to chicken farm, La Mesa, above El Valle, 3 Jan 1974, *J. Dwyer* 11885 (HOLOTYPE: LL-TEX; ISOTYPES: BRIT, F, MO, PMA).

Mez (1902) cited several specimens, including: *Jürgensen* 326 and 570 (both staminate), *Jürgensen* 338 (pistillate), all from Sierra San Pedro Nolasco; *Cuming s.n.* anno 1859 (staminate), *Gbiesbreght s.n.* anno 1842 (staminate),



and *Galeotti* 530 (pistillate) and 531 (staminate), all from Oaxaca. The bulk of the material was scanty, except for *Galeotti* 530, that had the most complete set of duplicates in the best condition, all of which had been seen by Mez. The US sheet was in the best condition by far, and therefore is selected as the lectotype.

*Myrsine juergensenii* has heretofore been considered a species of northern Mesoamerica, with a range from Mexico to Honduras. During preparation of the treatment for Flora de Nicaragua, it became obvious that many of the entities described from Panama were actually extreme forms of *Myrsine juergensenii*, either from lower altitudes, isolated mountain ranges, or other habitat extremes. Many of the variations encountered in those populations, as represented by the respective type specimens, also occurred sporadically in populations from Costa Rica, where this species had never been reported before. A series of quantitative variations in the vegetative features of this species' populations and other variations directly attributable to sex expression have given rise to overdescription. For example, the types of *Rapanea allenii* and *M. costaricensis* are notable only for its slightly longer pedicels and calyx lobes slightly narrower than most (but not all) of the *M. juergensenii* populations. The types of *Myrsine chiapensis* and *M. gillyi* are notable only for variation directly attributable to sex expression, such as thicker, shorter sepals, and stouter pedicels than most of *M. juergensenii*'s populations. The yellow-greenish color of the dried leaves in *M. chiapensis* and *M. gillyi* are drying artifacts. Populations corresponding to the types of *Myrsine jaliscensis* and *Myrsine mexicana* differ from those of the average population for the species only by having thinner sepals. Populations corresponding to the type of *Myrsine coclensis* has fewer flowers per fascicle and larger, thicker leaf blades, both features typical of premontane Myrsinaceae, especially those growing in low light regimes. The types of *Myrsine coclensis* and *Myrsine reflexiflora*, collected from the same locality, differ only because they represent staminate and pistillate growth forms of the population, respectively.

6. ***Myrsine cubana*** A. DC., Ann. Sci. Nat. Bot. 16:86. 1941. TYPE: CUBA. Without locality, 1829, *R. de la Sagra* 243 (HOLOTYPE: G-DC).

*Sideroxylon punctatum* Lam., Tabl. Encycl. 2:42. 1794. *Bumelia punctata* (Lam.) Roem. & Schult. in L., Syst. Veg. 498. 1819. *Myrsine floridana* A. DC., Trans. Linn. Soc. London, Bot. 17:107. 1834, *nom. superfl.* *Myrsine punctata* (Lam.) Stern, Bull. British Mus. (Nat. Hist.), Bot. 4:177. 1969, *non* (H. Lév.) Wilbur, Pacific Sci. 19:522. 1965. *Rapanea punctata* (Lam.) Lundell, Wrightia 4:121. 1969. TYPE: U.S.A. FLORIDA: A. Michaux s.n. (HOLOTYPE: G-DC).

*Myrsine veraecrucis* Lundell, Phytologia 56:418. 1984. SYN. NOV. *Rapanea veraecrucis* (Lundell) Lundell, Phytologia 58:490. 1985. TYPE: MEXICO. VERACRUZ: Municipio Alvarado, Km 22, Veracruz-Alvarado Hwy., 20 m, 21 May 1977, J. Calzada 3200 (HOLOTYPE: F; ISOTYPE: XAL, n.v.).



Stearn (1969) discovered that the earliest applicable name for this species was *Sideroxylum punctatum* Lam., so he made the combination *Myrsine punctata* (Lam.) Stearn. Unfortunately, that epithet was preoccupied by a combination published in 1966 by Wilbur. Therefore, the next available name is *Myrsine floridana* A. DC. However, A. de Candolle cited *Sideroxylum punctatum* Lam. as a homotypic synonym of *Myrsine floridana*. *Myrsine floridana* A. DC. is a *nomum superfluum*, and the correct name is *M. cubana* A. DC., the oldest available name. In the past, *Myrsine cubana* has been confused with *Myrsine guyanensis* (Aubl.) Kuntze, a South American species from Brazil, the Guianas, and eastern Venezuela. To compound the misinterpretation, Mez (1902) and all subsequent authors have confused *Myrsine guyanensis* (Aubl.) Kuntze with *M. latifolia* (Ruíz & Pav.) Spreng., the latter restricted to the contiguous Andean mountain chain. Pipoly (1992a, 1992b) discussed the diagnostic features separating these three taxa. In addition, Y.B. Harvey & Pipoly (1995) have further elucidated the systematic position of *Myrsine monticola* Martius, a name formerly considered a taxonomic synonym of *M. cubana*.

The type of *Myrsine veraecrucis* is both quantitatively and qualitatively a perfect match to Caribbean populations of *Myrsine cubana* in all aspects. We hypothesize that Lundell's comparison of this species to *Myrsine mexicana* may be responsible for his mistaking the Vera Cruz populations as a new species.

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